

Curriculum Vitae

Dr Stephen Alexander Cummins BSc (Hons) PhD

Personal Information:

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Personal Statement:

I enjoy designing, developing and working with new technologies, especially those which relate Software Security or to my specialism of Technology Enhanced Learning. I am particularly interested in software engineering research and, more recently, the teaching and training of programmers at a variety of levels.

Summary of Skills & Professional Memberships

Technical Skills: C/C++ programming, C# programming, Web API, 8 years of Java Programming (Java3D, J2ME mobile development, JUnit, ElasticSearch, Android development, Eclipse IDE Plugin Development), PHP, HTML5, JavaScript, BASIC, Python, LaTeX, Open text web solutions (Red Dot) CMS, Databases (Oracle, MYSQL, MongoDB and Access), Linux, MSDOS and Windows Systems, UML, XML.

Personal Skills: Teaching and Training, Presentation Skills, Team work, Project Management, Excellent Record Keeping and Organisational Skills.

Professional Memberships: Chartered Institute for IT (Professional Member), Institute of Engineering and Technology (Professional Member)

Professional Qualifications: APMG-International PRINCE2 Registered Practitioner (28/09/2012), Certified SCRUM Master (2013)

Education:

University Campus Suffolk *September 2010 – January 2011*

Level: Postgraduate (Level 4)

Preparing To Teach in the Lifelong Learning Sector

University of Durham *October 2007 – January 2011*

Level: Postgraduate Degree (Level 8)

Doctor of Philosophy in Software Engineering & Education

University of Durham *October 2004 – July 2007*

Level: Undergraduate Degree (Level 6)

BSc (Hons) Computer Science: Software Engineering

St Benedict's Upper School *September 1999 – July 2004*

Level: GCSE & A-Level (Level 2 & 3)

5 A-levels & 11 GCSEs

Interests and Hobbies

I enjoy swimming, martial arts, strategy games as well as developing and working with new technologies.

Previously, I have co-run and co-administrated a small but successful hosting business called xrshosting.com. In February 2007, I decided to sell this business so that I could concentrate on my research. It is now owned by Uh-hosting ltd.

I am a registered STEM Ambassador and ran the Tanfield Science and Engineering Club between September 2007 and August 2010.

Selected Employment History

University of Cambridge, Computer Laboratory *October 2013 – Present*

Research Associate

In my role as a research associate, I am responsible for conducting a range of research with a specific focus on Software Engineering and Education. I am currently employed on a grant funded by the DfE which focuses on improving Physics Education through the application of technology. My duties include:

- Design and development of novel software systems to support teaching and learning.
- Supervising dissertation project students.
- Teaching on undergraduate programmes of study.
- Engaging with and managing suppliers who are working on technical aspects of our research projects.
- Developing my research profile and that of the department.

BAE Systems Detica (Applied Intelligence) *Nov 2011 – October 2013*

IT Consultant & Technical Architect

As a consultant, I gained experience in working on a wide variety of projects. Some of my duties included;

- Redesigning and delivering a new Java training programme for staff.
- Mentoring and training staff in the new Java training programme.
- Interviewing software developers for our internal recruitment process.
- Liaising with customers at all stages throughout the software development lifecycle.
- Managing technical work streams.
- Leading software development activities.
- Software development (Web applications and ETL tools for big data applications)
- Working on various projects for government clients including the MoD and TfL on their Olympics website www.getaheadofthegames.com.
- Security Clearances were held for this role.

West Suffolk College/ University Campus Suffolk *Aug 2010 – Oct 2011*

Lecturer in Computing

I was involved in both Further Education (Level 3 - BTEC) and Higher Education (Level 4-6 - Honours degree) teaching and assessment. I was especially active in both curriculum design and assessment development for the degree programmes of study. I taught primarily on the web development and software engineering modules using a variety of languages (including PHP, HTML, Java and C++). I have also taught the level 6 Web Deployed Databases module.

My H.E. related duties included: delivering lectures, designing and administrating assessment, providing tutorial support, curriculum design and development, leading the software engineering group project module and providing internal verification support for other relevant degree modules. As

part of this role, I have also been responsible for supervising all final year undergraduate project students for their computing dissertation projects. I also continued to conduct research into software engineering and education as often as possible.

Computer Science, Durham University *Oct 2009 – June 2010*
Senior Demonstrator

In my role as a senior demonstrator, I undertook up to 6 hours of teaching responsibilities per week whilst conducting research for my PhD. The teaching was primarily on the first year introductory programming and data structures course. As a senior demonstrator my responsibilities included;

- Supporting the lecturer with designing and planning practical exercises for students
- Management of demonstrators for the sessions that I am responsible
- Finding cover and dealing with absences for demonstrators.
- Assessing work and giving feedback.
- Providing help and support outside and during the practical times.
- Invigilation for examinations and bench tests.
- Small group teaching in tutorials and problem sessions

Science Department, Tanfield School *Mar 2007 – Mar 2008*
Outreach Teaching Fellow

During the first year of my research, I elected to take part in the universities outreach program for PhD students. As part of this program I received full funding for a year and I spent 50% of that year in a local school supporting teaching and learning. During my time at Tanfield I was involved in the following:

- Supporting lessons and improve utilisation of technology in the classroom.
- Take students on residential trips.
- Organise and run a Science, Engineering and Maths club after school.
- Engineer a number of new software systems to support the science department and the school in general.

Computer Science, University of Durham *Oct 2007 – June 2008*
Demonstrator & Examination Invigilator

In my role as a demonstrator for the department I undertook up to 6 hours of teaching responsibilities per week. The teaching was primarily on the first year introductory programming course. As a demonstrator my responsibilities included;

- Assessing work and giving feedback
- Providing help and support outside and during the practical times.
- Invigilation for examinations and bench tests.
- Small group teaching in tutorials and problem sessions

Thales Optronics Ltd, Bury St. Edmunds *July 2006 – Oct 2007*
Student Software Engineer

During this internship I worked with various technologies and on various projects. During my time at Thales I had to:

- Write code in C and C++ (using Visual C++ 6.0)
- Devise using white box techniques, test cases for existing software.
- Design XML Schemas and experiment with different XML tools
- Port applications from Linux into a Windows environment
- Research into different technologies and make proposals based on my findings.

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- Formal presentations based on my research
 - I have been security checked and issued a security clearance for this role.

My Selected Publications

Cummins, S., Beresford, A. R. & Rice, A. (2015), Investigating Engagement with In-Video Quiz Questions in a Programming Course, IEEE Transactions on Learning Technologies (in press)

Cummins, S. Davies, I., Rice, A. & Beresford, A. R. (2015), Equality: A tool for free-form equation editing, The 15th IEEE International Conference on Advanced Learning Technologies - ICALT2015, July 6-9, 2015, Hualien, Taiwan (in press)

Cummins, S., Burd L. and Hatch, A. (2011) 'Investigating shareable feedback tags for programming assignments', Computer Science Education 21(1), Routledge

Cummins, S., Burd L., and Hatch, A. (2010) 'Improving Student Engagement with Feedback: Using Feedback Tagging for Programming Assignments', The 11th Annual Higher Education Academy Subject Centre for Information and Computer Science Conference, 24th-26th August 2010, Durham University.

Cummins, S. (2010) 'Feedback 2.0: An Investigation into Using Sharable Feedback Tags as Programming Feedback', Doctoral thesis, Durham University, Available online: <http://etheses.dur.ac.uk/400/>.

Cummins, S., Burd, L., and Hatch, A. (2010) 'Using Feedback Tags and Sentiment Analysis to Generate Sharable Learning Resources', Proceedings of the 10th IEEE International Conference on Advanced Learning Technologies, Sousse, Tunisia, July 2010

Cummins, S., Burd, L., and Hatch, A. (2009) 'Tag Based Feedback for Programming Courses', SIGCSE Bulletin, 41(4) (Dec. 2009), pp 62-65

Cummins, S., Burd, L., Hatch, A. (2009) 'Folksonomies Of Feedback: Tagging Source Code' (poster abstract), The 10th Annual Higher Education Academy Subject Centre for Information and Computer Science Conference, 25th-27th August 2009, University of Kent.

Geldart, J. and Cummins, S. (2009) 'The Automatic Integration of Taxonomies with Folksonomies using Non-Axiomatic Logic', Information Systems Development: Towards a Service Provision Society

Geldart, J., Cummins, S., and Song, W. (2008) 'A Web of Active Knowledge', Semantics, Knowledge and the Grid SKG'08, Beijing, China